

Meeting Minutes
Modular Reconfigurable C4I Interface (MRCI)
Test Readiness Review (TRR)
15 January 1997

1. Purpose

The Test Readiness Review (TRR) was conducted on 15 January 1997 at SAIC in McLean, Virginia. The purpose of the meeting was to review recent SAIC / MRCI activities; MRCI design updates; SSI Implementation, mission threads and messages for CTAPS, MCS/P, and AFATDS; and the MRCI Test program. The first MRCI prototype was demonstrated, and updated AFATDS and MCS/P SOMs were made available.

2. Discussions

A. Recent SAIC Activities

The meeting began with the welcome and introduction from John Park of SAIC. John presented a list of recent activities by SAIC related to MRCI development. These activities included:

- Emphasis on enhancing code due to issues discovered during CT-4
- Updating the MRCI build schedule
- Participation in meetings at:
 1. University of Michigan aWOC
 2. Coordination WPC Germany, CBS MRCI interface

B. MRCI Design Updates

API - The MRCI Application Programmers Interface (API) was briefed by Mr. Larry Griggs, SAIC's Development Team Leader. This module is used by the System Specific Interface developers. The architecture is a classic client-server architecture. Technical details of data structures used, and API functions were presented. The API functions include: *RegisterUser*, *UnregisterUser*, *EnqueueMessage*, and *DequeueMessage*. An equivalent API exists to interface to the RTI.

MRMT - Dr. Mike Hieb briefed the Modular Reconfigurable Message Translator (MRMT). Two-way message translation between native C4I languages, e.g. USMTF, and the Command and Control Simulation Interface Language (CCSIL), is the key function of the MRCI Common Modules and is accomplished by this set of modules.

The MRMT is designed to be flexible and reusable. New or revised message formats are easily accommodated. The phases for preparation and use of the MRMT include Protocol Preparation, Exercise Preparation, and Initialization. Dr. Hieb discussed and provided examples of each phase.

CESS - Mr. Bill Silva briefed the Communications Effects Server System (CESS). CESS will be used to apply tactical communications effects in a simulated environment. The CESS is composed of two parts: the Communications Effects Server (CES), a federate which calculates the communications effects, e.g. latency and bit error rate; and the Communications Effects Module (CEM), a common module in the MRCI which applies the calculated effects. Mr. Silva covered the CESS basic concept, the three “levels” of CESS operation, flow through the CEM, and the CEM GUI. Mr. Bill Waite of Aegis Research Corporation, asked if the CEM could work with communications federates other than the CES. The answer is yes. The input and interface to the MRCI CEM will be documented in the Interface Control Document (ICD).

Mr. Joe Lacetera of MITRE/CECOM is coordinating with SAIC engineers in the building of the Communications Effects federate. The CESS was discussed in detail in an afternoon meeting among SAIC, CECOM, and NRaD.

RTII - Updates to the MRCI Run Time Infrastructure Interface (RTII) were presented by Dr. Rick McKenzie, SAIC Team Leader for MRCI Prototype development. Dr. McKenzie briefed the status and functionality of the versions of the RTI. He also discussed the reuse of RTII software, v. 0.33, in the RTII which interfaces to STOW A.1. RTI version F.0 is due in early February. MRCI will interface to both the STOW and the F versions of the RTI.

C. CTAPS Update

SSI Implementation - Mr. Bill Bretton, SAIC CTAPS Team Leader, presented the status of the CTAPS MRCI SSI. The CTAPS SSI interfaces to already existing CTAPS communications features and does not interfere with CTAPS operations. The CTAPS SSI can send USMTF messages to the MRCI Common Modules for translation to CCSIL and/or send USMTF messages to another live C4I system. Mr. Bretton also briefed the SSI GUI.

Mission Threads/Message - Mr. Ed Ashley, the SAIC lead developer for CTAPS message mapping, briefed the message mappings between CTAPS USMTF formats and the CCSIL message formats. A CTAPS to SAF message flow was traced. The prototype MRCI will translate eight CTAPS USMTF messages.

D. MCS/P Update

SSI Implementation - The status of MCS/P development was briefed by Mr. Bob Howard, Team Leader of the MCS/P SSI integration effort at CSC. Mr. Howard described the SSI architecture and processing.

Mission Threads/Messages - Mr. Jerry Hill traced ARSAF-MCS/P message interaction. The message interaction chart shows both the report sequence, and the order sequence of activity. The prototype MRCI will translate a total of ten USMTF/ATCCS messages.

E. AFATDS Update

SSI Implementation - The status of AFATDS SSI was briefed by Mr. Dale Anglin, Team Leader of the AFATDS SSI integration effort at Hughes Defense Systems. Mr. Anglin stepped through the functional and physical design diagrams that have been implemented by Hughes. The AFATDS SSI GUI was also briefed.

Mission Threads - Mr. Jerry Hill traced the ARSAF-AFATDS message interactions. This vignette includes Brigade and Battalion fire support elements and a Brigade fire direction control on the live C4I side and a Battery FDC/Fire Unit and a FIST on the SAF side. The prototype MRCI will translate 25 AFATDS USMTF/ATCCS and TACFIRE messages.

F. Simulation Federates Update

Dr. Mike Hieb provided the current status of each of the simulation federates of current interest to MRCI: ARSAF, EAGLE, AFSAF, NASM/AP, and CBS.

G. Test Program

Ms. Ivy Chen discussed the MRCI test program and schedule. Near-term events include the Demonstration of Concept (DOC) testing, STOW CT5 testing, and the JTC Confederation testing.

H. Demonstration

Mr. Larry Griggs presented a demonstration of MRCI. Message flow from the RTI, through the MRCI, to the C4I systems (CTAPS and MCS/P), and back was demonstrated.

I. Adjourn

The meeting adjourned after draft copies of SAIC's Simulation Object Models (SOMs) for AFATDS and MCS/P were handed out to interested TRR attendees.

